IN THE CLAIMS

Please amend the claims as follows.

Claims 1-6 (Cancelled).

7. (Currently Amended) A method, comprising the steps of:

computing an inverse polynomial [[,]] by steps comprising:

creating an ordered original series of polynomial factors comprising polynomial factors calculated from line spectral frequency coefficients;

reducing the number of polynomial factors in the original series, comprising the step of combining the polynomial factors in pairs until only two final polynomial factors remain; and

forming the inverse polynomial by multiplying the two final polynomial factors;

calculating filter coefficients from the inverse polynomial; and

operating a filter using the calculated filter coefficients to filter a signal.

8. (Previously Presented) The method of Claim 7, where the step of reducing comprises the steps of:

creating an intermediate series of polynomial factors by combining the polynomial factors in the original series in pairs; and

combining the polynomial factors in the intermediate series in pairs,

wherein a reduced series of polynomial factors is formed.

9. (Previously Presented) The method of Claim 7, where the number of polynomial factors in the original series is even and the step of combining comprises the steps of combining the first and last polynomial factors in a pair, combining the second and next-to-last polynomial factors in a pair, and so forth, until all the polynomials in the original series have been combined in pairs.

10. (Previously Presented) The method of Claim 7, where the number of polynomial factors in the original series is odd and the step of combining comprises the steps of combining the first and last polynomial factors in a pair, combining the second and next-to-last polynomial factors in a pair, and so forth, until all but one of the polynomials in the original series have been combined in pairs.

11. (Previously Presented) The method of Claim 7, wherein the original series is ordered by increasing line spectral frequency.

12. (Previously Presented) The method of Claim 7, wherein the original series of polynomial factors is created and ordered as follows:

$$v_0[0] = 1 - z^{-1}$$

$$v_0[1] = 1 - 2\cos\omega_1 z^{-1} + z^{-2}$$

$$v_0[2] = 1 - 2\cos\omega_3 z^{-1} + z^{-2}$$

through

$$v_0[m_q] = 1 - 2\cos\omega_{2*m_q-1} z^{-1} + z^{-2}$$

where m, the number of the line spectral frequency coefficients, is even; ω_i are the individual line spectral frequency coefficients; m_q=m/2; and z is a coded speech signal.

13. (Previously Presented) The method of Claim 7, wherein the original series of polynomial factors is formed and ordered as follows:

$$v_0[0] = 1 - z^{-1}$$

$$v_0[1] = 1 - 2\cos\omega_1 z^{-1} + z^{-2}$$

$$v_0[2] = 1 - 2\cos\omega_3 z^{-1} + z^{-2}$$

through

$$v_0[m_q] = 1 - 2\cos\omega_{2*m_q-1} z^{-1} + z^{-2}$$

$$v_0[m_q + 1] = 1 + z^{-1}$$

where m, the number of the line spectral frequency coefficients, is odd; ω_i are the individual line spectral frequency coefficients; m_q=(m-1)/2; and z is a coded speech signal.

14. (Previously Presented) A method of receiving speech signals, comprising the steps of:

receiving a filter description comprising line spectral frequency coefficients;

computing a linear predictive coding filter from the line spectral frequency coefficients by steps comprising:

computing an inverse polynomial by steps comprising:

creating an ordered original series of polynomial factors comprising polynomial factors calculated from the line spectral frequency coefficients;

reducing the number of polynomial factors in the original series, comprising the step of combining the polynomial factors in pairs until only two final polynomial factors remain; and

forming the inverse polynomial by multiplying the two final polynomial factors; and

calculating the filter coefficients from the inverse polynomial;

receiving coded speech; and

reconstructing the speech signals from the coded speech using the computed linear predictive coding filter.

15. (Previously Presented) The method of Claim 14, where the step of reducing comprises the steps of:

creating an intermediate series of polynomial factors by combining the polynomial factors in the original series in pairs; and

combining the polynomial factors in the intermediate series in pairs,

wherein a reduced series of polynomial factors is formed.

16. (Previously Presented) The method of Claim 14, where the number of polynomial factors in the original series is even and the step of combining comprises the steps of combining the first and last polynomial factors in a pair, combining the second and next-to-last polynomial factors in a pair, and so forth, until all the polynomials in the original series have been combined in pairs.

17. (Previously Presented) The method of Claim 14, where the number of polynomial factors in the original series is odd and the step of combining comprises the steps of combining the first and last polynomial factors in a pair, combining the second and next-to-last polynomial factors in a pair, and so forth, until all but one of the polynomials in the original series have been combined in pairs.

18. (Previously Presented) The method of Claim 14, wherein the original series is ordered by increasing line spectral frequency.

19. (Previously Presented) The method of Claim 12, wherein combining the polynomial factors in pairs creates an intermediate series of polynomial factors defined as:

$$v_1[i] = v_0[i] \cdot v_0[m_q - i]$$

where $v_1[i]$ represents the i-th polynomial factor in the intermediate series of polynomial factors.

20. (Previously Presented) The method of Claim 8, further comprising receiving a filter description transmitted with a speech signal, the filter description comprising the line spectral frequency coefficients.

21. (Previously Presented) The method of Claim 15, wherein the intermediate series of polynomial factors are defined as:

$$v_1[i] = v_0[i] \cdot v_0[m_q - i]$$

where $v_0[i]$ represents the i-th polynomial factor in the original series of polynomial factors, $v_1[i]$ represents the i-th polynomial factor in the intermediate series of polynomial factors, m represents a number of line spectral frequency coefficients, $m_q = m / 2$ if m is even, and $m_q = (m - 1) / 2$ if m is odd.

22. (Previously Presented) The method of Claim 14, wherein receiving the filter description comprises receiving the filter description transmitted with a speech signal.

23. (Previously Presented) A method, comprising:

creating an original series of polynomial factors using line spectral frequency coefficients;

combining the polynomial factors in pairs until two final polynomial factors remain;

forming an inverse polynomial by multiplying the two final polynomial factors;

calculating filter coefficients using the inverse polynomial; and

operating a filter using the calculated filter coefficients to filter a signal.

24. (Previously Presented) The method of Claim 23, wherein combining the polynomial factors in pairs creates an intermediate series of polynomial factors defined as:

$$v_1[i] = v_0[i] \cdot v_0[m_q - i]$$

where $v_0[i]$ represents the i-th polynomial factor in the original series of polynomial factors, $v_1[i]$ represents the i-th polynomial factor in the intermediate series of polynomial factors, m represents a number of line spectral frequency coefficients, $m_q = m / 2$ if m is even, and $m_q = (m - 1) / 2$ if m is odd.

25. (Previously Presented) The method of Claim 23, further comprising receiving a filter description comprising the line spectral frequency coefficients.

26. (Previously Presented) The method of Claim 23, wherein operating the filter comprises:

computing a linear predictive coding filter using the inverse polynomial;

receiving coded speech; and

reconstructing speech from the coded speech using the computed linear predictive coding filter.